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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/989,372	11/21/2001	Richard H. Lane	M4065.0338/P338-A	1348

24998 7590 10/08/2002

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EXAMINER
DOAN, THERESA T

ART UNIT	PAPER NUMBER
2814	

DATE MAILED: 10/08/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/989,372	LANE, RICHARD H.	
	Examiner	Art Unit	
	Theresa T Doan	2814	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *03* MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 July 2002* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *29-54* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *29-54* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

2. The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. Claims 29, 35-36 and 42-43, insofar as it is in compliance with 35 U.S.C. 112, are rejected under 35 U.S.C. 102(e) as being anticipated by Jeng et al. (6,184,081) of record as previously used.

Jeng et al. teach in figures 1-10 a memory cell comprising:

a substrate 1;

a metal layer 20 forms a lower capacitor electrode that provided over the semiconductor substrate 1 (figure 4);

a transistor (8-11) in electrical communication with the metal layer 20, the transistor including a gate 3 fabricated on the semiconductor substrate 1 and including a source/drain region in the semiconductor substrate disposed adjacent to the gate; and

a capacitor including an electrode, the electrode being in electrical contact with the source/drain region.

Regarding the process limitation recited in claims 29 and 36 (an electro-polished patterned), these would not carry patentable weight in this claim drawn to a structure, because distinct structure is not necessarily produced. In re Thorpe, 227 USPQ 964 (Fed. Cir. 1985).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 30-34, 37-41 and 44-54, insofar as it is in compliance with 35 U.S.C. 112, are rejected under 35 U.S.C. 103(a) as being unpatentable over Jeng et al. (6,184,081) in view of McClure et al. (6,027,860) as previously cited.

Regarding claims 30-32, 37-39 and 45-47, Jeng et al. teach substantially the entire claimed structure, as applied to claims 29 and 36 above, except for the metal layer contains a material selected from the group consisting of noble metals, noble metal alloys and noble metal oxides, specifically platinum material.

McClure et al. teach in figure 9 the material of conductive layers 50 and 55 are platinum, conductive oxides and polysilicon (column 3, lines 33-35). It would have been obvious to one having ordinary skill in the art to substitute the material of polysilicon layer for platinum layer in Jeng et al. Because the substitution of art recognized equivalent as suggested by McClure et al. is within the level of ordinary skill in the art.

Regarding claims 33-34, 40-41 and 48-49, It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use a platinum layer thickness of approximately 100 angstroms in Jeng's device, since it is a matter of design choice within the skills of an artisan, subject to routine experimentation and optimization.

Regarding claim 44, as discussed claims 29 and 36 above, Jeng et al. and McClure et al. do not teach a processor-based system. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use a memory cell into a processor-based system in order to operate the device in its intended use. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963).

Regarding claim 50, Jeng et al. teach in figures 4-5 the electropolished patterned metal layer 20 forms a lower capacitor electrode of the semiconductor device.

Regarding claim 52, Jeng et al. teach the memory module is a DRAM memory (see Abstraction).

Regarding claims 51 and 53-54, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify the teaching of Jeng et al.'s device to fabricate specific memory module such as a SRAM memory or a MCM memory, since it is a matter of design choice within the skills of an artisan, subject to achieve its performance criteria.

Response to Arguments

Applicant's arguments filed 07/26/02 have been fully considered but they are not persuasive.

Applicant argues that Jeng et al. do not teach or suggest the limitation of "an electro-polished patterned metal layer". It should be noted that claims 29, 36 and 44 are not directed to any method for making electropolished patterned but rather, are directed to the resulting of an electro-polished patterned metal layer. Therefore, the process limitation recited in claims 29, 36 and 44 (an electro-polished patterned) would not carry patentable weight in claims drawn to a structure because these claims are directed to the product, no matter how it is actually made, and the patentability of the final product must be determined, not the patentability of the process, which in any case have not been presented in " product by process" claims. Note that a "product by process" claim is directed to the product per se, no matter how actually made, In re Hirao, 190 USPQ

15 at 17 (footnote 3). See also In re Brown, 173 USPQ 685; In re Luck, 177 USPQ 523; In re Fessmann, 180 USPQ 324; In re Avery, 186 USPQ 161; In re Wertheim, 191 USPQ 90 (209 USPQ 554 does not deal with this issue); In re Marosi et al, 218 USPQ 289; and particularly In re Thorpe, 227 USPQ 964, all of which make it clear that it is the patentability of the final product per se which must be determined in a "product by process" claim, and not the patentability of the process, and that an old or obvious product produced by a new method is not patentable as a product, whether claimed in "product by process" claims or not. In this case, an electro-polished patterned metal layer of invention is not different in structure comparing to the metal layer 20 of Jeng.

Applicant also argues that neither Jeng nor McClure teach or suggest the limitations of the metal layer contains a material selected from the group consisting of noble metals, noble metal alloys and noble metal oxides, specifically platinum material as recited in claims 30-32, 37-39 and 45-47. The argument is not persuasive because McClure et al. teach in figure 9 the material of conductive layers 50 and 55 is platinum (column 3, lines 33-35).

The rest of applicant's arguments, addressed to the amended claims are considered in the rejections shown above.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Theresa T Doan whose telephone number is (703) 305-2366. The examiner can normally be reached on 8:00AM - 6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, OLIK CHAUDHURI can be reached on (703) 308-2794. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

TD
May 1, 2002

Olik Chaudhuri
Supervisory Patent Examiner
Technology Center 2800